NON-PUBLIC?: N
ACCESSION #: 9003050301
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Zion Unit 1 PAGE: 1 OF 03

DOCKET NUMBER: 05000295

TITLE: Unit 1 Reactor Trip due To High Level In ID Steam Generator
EVENT DATE: 01/27/90 LER #: 90-004-00 REPORT DATE: 02/26/90

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 039

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Paul Geddes, LER Coordinator TELEPHONE: (708) 745-2084

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

Unit 1 was in Mode 1 at approximately 39 percent power. The Nuclear Station Operator (NSO) placed the level control valve for the 1D Steam Generator (S/G) into manual control for troubleshooting on the controlling S/G level channel. The NSO continued to perform other duties, including a 50 gallon dilution of the Reactor Coolant System (RCS) boron concentration, and withdrawal of control rods one half step for temperature control.

Approximately 35 minutes after placing the ID S/G level control valve into manual, at 0816, Unit 1 experienced a Turbine Trip/Reactor Trip resulting from high water level on ID S/G.

The cause of the event was personnel error.

There was no safety significance to this event, as all safeguards and reactor protection equipment operated as designed.

Standing Order 90-04 was issued which requires a NSO to be stationed continuously at the S/G control panel whenever a main feedwater regulating valve is in manual control.

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END OF ABSTRACT

A. CONDITION PRIOR TO EVENT

MODE 1 - Power RX Power 39% RCS AB! Temperature/ Pressure degrees F/ Psig

There was no equipment out of service prior to this event which contributed to the severity of this event.

B. DESCRIPTION OF EVENT

Unit 1 was in Mode 1 at approximately 39 percent power, at normal operating temperature and pressure. Reactor power was being held constant for Steam Generator (S/G) chemistry cleanup.

The Instrument Maintenance (IM) Department received permission from the Shift Engineer, the Control Room Supervisor, and the Unit 1 Nuclear Station Operator (NSO) to perform troubleshooting on the level deviation alarm for the ID S/G. This annunciator had been alarming spuriously. The NSO had verified that plant conditions were stable, and allowed the work to start. The procedure being used to troubleshoot the alarm required placement of the level control valve for ID S/G into manual. This was necessary because the level channel being checked is the only channel that feeds the S/G level control system. This channel also provides the signal for the narrow range level recorder.

The NSO placed the level control valve for the 10 S/G into manual control. Steam flow, feedwater flow, and level all appeared to be stable. The Instrument Maintenance Technician then proceeded to the Auxiliary Electric Room to trip the bistables associated with the level channel being checked. The NSO continued to perform other duties, including a 50 gallon dilution of the Reactor Coolant system (RCS) boron concentration, and withdrawal of control rods one half step. Both actions were being taken to raise RCS temperature approximately one degree. During the performance of these duties,

the NSO did not check S/G level.

After tripping the bistables associated with the level channel being worked on, the Instrument Technician began placing test signals into the level loop. At this time trending capability for the ID S/G from the narrow range recorder was lost.

Approximately 35 minutes after placing the 1D S/G level control valve into manual, at 0816, Unit 1 experienced a Turbine Trip/Feedwater Isolation resulting from high water level on ID S/G. Since unit load was in excess of the Turbine Trip/Reactor Trip interlock setpoint of 10 percent, the turbine trip caused a reactor trip.

The IM Technician returned to the Control Room after hearing several relays actuate, at which time he was instructed to return the level channel to service.

The plant was stabilized using normal post trip recovery procedures, with no complications.

C. APPARENT CAUSE OF EVENT

The cause of the event was personnel error, in that the NSO failed to check 1D S/G level often enough with the level control valve in manual.

D. SAFETY ANALYSIS OF EVENT

All safeguards and reactor protection equipment operated as designed, and the plant was stabilized in Mode 3 (Hot Shutdown). There was therefore no safety significance to this event.

E. CORRECTIVE ACTIONS

Standing order 90-04 was issued which requires a NSO to be stationed continuously at the S/G control panel whenever a main feedwater regulating valve is in manual control.

The NSO was restricted from assuming responsibility for a unit until a formal review of his performance could be conducted. A Performance Review Board was convened in which senior station

management reviewed the matter with the NSO. This review identified the need for further evaluation/training to be conducted on the simulator. This evaluation/training focused on the NSO's ability to prioritize tasks and maintain attention to detail in a time critical situation. The NSO successfully completed this evaluation/training.

A formal Human Performance Evaluation System investigation was performed on this event. The NSO involved participated in the investigation.

This event will be reviewed with all licensed operating personnel both in the classroom and via the required reading program.

F. PREVIOUS EVENTS

There have been no events since 1985 where a reactor trip was caused by NSO inattention to manual S/G control.

SOER 84-4 recommendations 1 and 3 apply to this event. Zion Stations' response to recommendation 1, which concerns training, is still considered adequate as the event was attributed to lack of attention to detail, not lack of training. Zion Stations' response to recommendation 3, which concerns procedures, is being enhanced by the issuance of the Standing order.

G. COMPONENT FAILURE DATA

None

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ATTACHMENT 1 TO 9003050301 PAGE 1 OF 1

Commonwealth Edison
Zion Generating Station
Shilo Blvd. & Lake Michigan
Zion, Illinois 60099

Telephone 708/746-2084

February 26, 1990

U.S. Nuclear Regulatory Commission
Document Control Clerk
Washington, D.C. 20555

Dear Sir:

The Enclosed licensee Event Report number 90-004-00, Docket No. 50-295/DPR-39 from Zion Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv), which requires a 30 day written report when any event or condition occurs that results in manual or automatic actuation of any Engineered Safety Feature.

Very truly yours,

T. P. Joyce
Station Manager
Zion Generating Station

TPJ/jlc

Enclosure: Licensee Event Report

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
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